

LIRR
Long Island City Freight Yard (AOC 2)
Draft Upland Site Summary

LIRR LONG ISLAND CITY FREIGHT YARD (AOC 2; DAR SITE ID #129)

Address: 11-14 Jackson Avenue, Long Island City, New York 11101
Tax Lot Parcel(s): Queens Block 61, Lot 6
Latitude: 40.743322
Longitude: -73.950569
Regulatory Programs/
Numbers/Codes: NYSDEC Spill No. 0650111, PBS No. 2-433950
Analytical Data Status: ☐ Electronic Data Available ☒ Hardcopies only
☐ No Data Available

1 SUMMARY OF CONSTITUENTS OF POTENTIAL CONCERN (COPCs) TRANSPORT PATHWAYS TO THE CREEK

The current understanding of the transport mechanisms of COPCs from the upland portions of the Long Island Railroad (LIRR) Long Island City Freight Yard (AOC 2) site (site) to Newtown Creek is summarized in this section and Table 1 and supported in following sections.

Overland Transport

The site is located approximately 0.27 mile from Newtown Creek and associated waterways. This is not a complete historical or current pathway.

Bank Erosion

The site is not adjacent to Newtown Creek or associated waterways. This is not a complete historical or current pathway.

Groundwater

The site is located approximately 0.27 mile north of Newtown Creek; however, groundwater flows generally in a westerly direction toward the East River. Historical groundwater sampling conducted at the site indicated some limited groundwater impacts, while more recent investigations determined the site was not a source of groundwater contamination. This is not a complete historical or current pathway.

Overwater Activities

This site is not adjacent to Newtown Creek or associated waterways and has no overwater activities. This is not a complete historical or current pathway.

Stormwater/Wastewater Systems

This site is within the Bowery Bay Water Pollution Control Plant (WPCP) sewershed. Stormwater and wastewater discharges from the site flow into a combined municipal sewer system. When the combined flows exceed the system's capacity, untreated combined sewer overflows (CSOs) are discharged to Newtown Creek at Outfall BB-013 located at the Pulaski Bridge (NYCDEP 2007). There is insufficient evidence to make a historical or current sewer/CSO pathway determination.

Information regarding on-site stormwater infrastructure and management was not identified in documents available for review. There is insufficient evidence to make a historical or current pathway determination for direct discharge of stormwater and wastewater.

Air Releases

Information regarding site air discharges was not identified in documents available for review. There is insufficient evidence to make a historical or current pathway determination.

2 PROJECT STATUS

A summary of investigation and remedial activities at the site is provided in the following table:

Activity		Date(s)/Comments
Phase 1 Environmental Site Assessment	<input checked="" type="checkbox"/>	A Phase 1 Environmental Site Assessment was conducted in 1993 and 1994 and reported in the 1994 Preliminary Investigation Report (STV and EPM 1994).
Site Characterization	<input checked="" type="checkbox"/>	A site characterization was conducted during Phase I of the 1994 Preliminary Investigation Report (STV and EPM 1994).
Remedial Investigation	<input type="checkbox"/>	

Activity		Date(s)/Comments
Remedy Selection	<input checked="" type="checkbox"/>	A tank Closure Program was conducted in 1995 and reported in the 1995 Tank Closure Report (STV and EPM 1995).
Remedial Design/Remedial Action Implementation	<input checked="" type="checkbox"/>	In 1995, nine USTs were removed from the site, along with approximately 5 cubic yards of contaminated soil and approximately 1,650 gallons of petroleum contaminated water (STV and EPM 1995; NYSDEC 2006).
Use Restrictions (Environmental Easements or Institutional Controls)	<input type="checkbox"/>	
Construction Completion	<input type="checkbox"/>	
Site Closeout/No Further Action Determination	<input type="checkbox"/>	

Notes:

EPM – Environmental Planning and Management, Inc.

NYSDEC – New York State Department of Environmental Conservation

STV – STV Incorporated

UST – underground storage tanks

3 SITE OWNERSHIP HISTORY

Respondent Member:

☐ Yes ☒ No

Owner	Years	Occupant	Types of Operations
LIRR	circa 1936 – 1966	Unknown	Gasoline Service Station
Delbay Corporation subsidiary of LIRR	1966 – 1983 1983 – 1988	Unknown	
Metropolitan Transportation Authority subsidiary of LIRR	1988 – unknown	Unknown	Unknown
LIRR	Unknown – current	Vacant	Vacant Lot

Note:

LIRR – Long Island Rail Road

Discussion and sources provided in Section 6.

4 PROPERTY DESCRIPTION

The site occupies approximately 0.17 acre¹ within the Bowery Bay WPCP sewershed. Dutch Kills, a tributary to Newtown Creek, is located approximately 0.72 mile east of the site; Newtown Creek is located approximately 0.36 mile south of the site; and the East River is located approximately 0.59 mile west of the site. Several roads and buildings are located between the site and each waterbody. The site is an abandoned gasoline station and there are currently no structures occupying the site. The site appears to be mostly covered by deciduous trees, shrubs, and grasses with patches of dirt, as shown in Figure 1. Site topography slopes gently to the south (see Figure 1).

The site is bounded by Jackson Avenue to the north, the Hunters Point Plaza (a New York State Department of Environmental Conservation [NYSDEC] building) to the east and south, and the LIRR tracks to the west (STV and EPM 1995). The site and immediate area located south of Jackson Avenue are zoned for manufacturing (NYCDCP 2011). The immediate area north of Jackson Avenue is zoned residential. The surrounding area, in general, is highly developed and heavily industrialized, including warehouses, automotive repair garages, and gasoline stations (STV and EPM 1995).

5 CURRENT SITE USE

Current site use appears to be a vacant lot, as shown in Figure 1.

6 SITE USE HISTORY

In 1898, the site was developed land and occupied Block 61, Lots 86, 88, 90, and 92 (Sanborn 1898). By 1915, the LIRR Freight Yard expanded and occupied additional property; however, the site did not appear to show any significant change (STV and EPM 1994; Sanborn 1915). In 1936, one structure and six gasoline tanks appeared on the site (STV and EPM 1994; Sanborn 1936). In 1943, the Sanborn Map shows the same structure and tanks (Sanborn 1943). The site was utilized as a gasoline service station from sometime around 1936 to sometime around 1983 (NYSDEC 2006). A Sanborn Map Company (Sanborn) map

¹ Acreage is an approximation of the site tax parcel using geographic information system data.

dated 1981 indicated the structure noted in 1936 was still present, but no tanks appeared to be at the site (STV and EPM 1994).

7 CURRENT AND HISTORICAL AREAS OF CONCERN AND COPCs

The current understanding of the historical and current potential upland and overwater areas of concern at the site is summarized in Table 1. The following sections provide brief discussion of the potential sources and COPCs at the site requiring additional discussion.

Potential contaminant areas of concern at the site include underground storage tanks (USTs) and associated petroleum conveyance pipelines and other products used in gas station operations. The COPCs associated with these areas of concern include petroleum hydrocarbons (including gasoline and No. 2 fuel oil), volatile organic compounds (VOCs; including benzene, toluene, ethylbenzene, and xylene [BTEX] and benzene-related compounds), semi-volatile organic compounds (SVOCs), and polycyclic aromatic hydrocarbons (PAHs).

7.1 Uplands

The site was utilized as a gas station for more than 55 years (STV and EPM 1994). Nine 550-gallon capacity, single-walled, steel USTs were located at the site as early as 1936 under petroleum bulk storage (PBS) No. 2-433950 (STV and EPM 1995; NYSDEC 2006; EDR 2010). Tank Nos. 1 through 6 contained leaded gasoline and were encased within a concrete vault (STV and EPM 1995; EDR 2010). Tank Nos. 7 through 9 contained No. 2 fuel oil and had steel/carbon steel/iron underground piping (EDR 2010). All tanks, piping, and concrete were cleaned, closed, and removed in August 1995, as described in Section 9 of this site summary.

7.2 Overwater Activities

This site is not adjacent to Newtown Creek or associated waterways. Information related to overwater activities was not identified in documents available for review.

7.3 Spills

On December 12, 1983, a spill to the soil of an unknown substance in an unknown amount was reported at the site (NYSDEC Spill No. 0650111; NYSDEC 1983, 2012; EDR 2010). No

direct evidence of an actual spill was found; however, given the historical site use operations as a gasoline service station, the release was assumed to be gasoline (NYSDEC 2006). After years of soil and groundwater investigations conducted at the site, a letter dated May 16, 2007 sent to LIRR from NYSDEC indicated no further investigation or response was required concerning this spill and the file was closed (NYSDEC 2007).

8 PHYSICAL SITE SETTING

8.1 Geology

Surface topography at the site gently slopes toward the southwest (STV and EPM 1995). Subsurface data collected at the site indicate the site is underlain by a fill unit of miscellaneous heterogeneous material overlying glacier out-wash, consisting of well sorted sand and gravel (STV and EPM 1994, 1995). Fill materials and soil are generally described as yellowish brown to black fine sand and silt to a light brown fine to coarse sand and fine to medium well-rounded gravel (STV and EPM 1994).

8.2 Hydrogeology

Historical investigations conducted at the site indicate groundwater is approximately 15 feet below ground surface (bgs) and flows generally in a westerly direction toward the East River (LIRR 2007a). Generally, groundwater occurs in the Upper Glacial, the Jameco (Pleistocene), the Magothy, and the Lloyd aquifers (Cretaceous) located in the unconsolidated sediments of Queens County, New York (STV and EPM 1994, 1995).

9 NATURE AND EXTENT (CURRENT UNDERSTANDING OF ENVIRONMENTAL CONDITIONS)

9.1 Soil

Soil Investigations

☒ Yes ☐ No

Bank Samples

☐ Yes ☐ No ☒ Not Applicable

Soil-Vapor Investigations

☐ Yes ☒ No

9.1.1 Soil Investigations

LIRR contracted STV Incorporated (STV) and Environmental Planning and Management, Inc. (EPM), to conduct a preliminary subsurface investigation at the site as part of a Preliminary Site Assessment conducted from 1993 to 1994 (STV and EPM 1994). This assessment comprised a Phase I Site Assessment and Phase II sampling activities. During the investigation, four soil borings were advanced at the site; three to a depth of 20 feet bgs and one to 15 feet bgs (see Attachment 1). Samples were field screened for organic vapors using a photoionization detector (PID) and/or a flame ionization device (STV and EPM 1994). U.S. Environmental Protection Agency (USEPA) Methods 8021 and 8015 were used to analyze soil samples for total petroleum hydrocarbons (TPH), BTEX, VOCs, SVOCs, and polychlorinated biphenyls (PCBs; STV and EPM 1994).

Analytes that exceeded their respective recommended soil cleanup standards are summarized in the following table:

Analyte	Units	Maximum Soil Concentration	Recommended Standard
VOCs			
1,2,4-Trimethylbenzene	ppb	38,000	100
1,3,5-Trimethylbenzene	ppb	27,000	100
Ethyl Benzene	ppb	14,000	100
Naphthalene	ppb	20,000	200
n-Butylbenzene	ppb	21,000	100
n-Propylbenzene	ppb	10,000	100
p-Isopropyltoluene	ppb	13,000	100
sec-Butylbenzene	ppb	320	100
Styrene	ppb	1,000	---
Toluene	ppb	22,000	100
Xylenes (total)	ppb	62,000	100
SVOCs			
Benzo(a)anthracene	ppb	670	0.04
Benzo(b)fluoranthene	ppb	320	0.04
Benzo(k)fluoranthene	ppb	270	0.04
Chrysene	ppb	590	0.04
Fluoranthene	ppb	1,300	1,000

Analyte	Units	Maximum Soil Concentration	Recommended Standard
Phenanthrene	ppb	1,100	1,000
Pyrene	ppb	1,100	1,000

Notes:

--- – Not indicated in source document

ppb – parts per billion

SVOC – semi-volatile organic compound

VOC – volatile organic compound

Minimum soil concentrations were non-detects.

Samples collected during the preliminary investigation detected VOCs and SVOCs exceeding NYSDEC Technical and Administrative Guidance Memorandums (TAGM) 4046

Recommended Cleanup Objectives. Exceedances, primarily BTEX, benzene-related compounds and PAHs, were collected at the 13- to 15-foot interval (see Attachment 2 for a map of the inferred extent of soil contamination detected at the 10- to 15-foot interval).

TPH was detected in several samples collected; however, only one sample collected at the 8- to 10-foot interval detected an elevated TPH concentration of 2,690 parts per billion (ppb).

No PCBs were detected in collected samples.

In 1995, as part of tank closure and removal procedures at the site, nine USTs were excavated and removed along with approximately 5 cubic yards of contaminated soil (STV and EPM 1995; NYSDEC 2006). Soils that were removed from the excavation area were field screened with a PID. The excavated soils registered below 10 parts per million (ppm; STV and EPM 1995). Seven post-excavation soil samples were also collected, field screened with the PID, and analyzed for VOCs using USEPA Method 8021 with methyl tert-butyl ether (MTBE) and total lead. Soil samples were collected from each of the four sidewalls of the excavation and three soil samples were collected from 2 feet below the excavations bottom (STV and EPM 1995). Soil sample results were found below NYSDEC soil guidance values (see Attachment 3).

In 2007, a Site Investigation was performed to confirm the site was not contributing contamination to groundwater (LIRR 2007b). Soil samples were collected from three locations at 18 to 20 feet bgs and analyzed for VOCs and SVOCs. Results from sample location GP-2 detected SVOC concentrations in excess of the NYSDEC TAGM 4046

Recommended Soil Cleanup Objectives. Analytes exceeding NYSDEC soil guidance values included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene and dibenz(a,h)anthracene with detected concentrations of 16,000 ppb, 13,000 ppb, 14,000 ppb, 15,000 ppb, and 1,600 ppb, respectively (LIRR 2007d). Further investigation of the composition of sample GP-2 indicated a stray piece of asphalt or coal (or similar petroleum-based substance) could have been in the sample (LIRR 2007c).

9.1.2 Soil Summary

Soil investigations indicate historical subsurface soil contamination at the site.

Contamination was found at the site during a 1994 Preliminary Subsurface Investigation including key contaminants BTEX, benzene-related compounds, and PAHs. Nine USTs were removed from the site in 1995. Endpoint samples collected after the tank removal indicated no exceedances of NYSDEC soil guidance values. A 2007 Site Investigation indicated SVOC contamination below the water table; however, further investigation of the sample composition indicated the exceedances were likely due to foreign matter in the sample.

9.2 Groundwater

Groundwater Investigations

☒ Yes ☐ No

NAPL Presence (Historical and Current)

☐ Yes ☒ No

Dissolved COPC Plumes

☐ Yes ☒ No

Visual Seep Sample Data

☐ Yes ☐ No ☒ Not Applicable

9.2.1 Groundwater Investigations

In 1983, in response to NYSDEC Spill No. 0650111, the LIRR conducted a subsurface investigation at the site (LIRR 1983, 2006). Three monitoring wells were installed at the site and six groundwater samples were collected and analyzed for hydrocarbon content (LIRR 1983). Groundwater samples indicated no petroleum contamination in the shallow groundwater (4 to 6 feet bgs); however, one sample collected from 14 to 16 feet bgs detected 23 ppm of “hydrocarbons as gasoline” (LIRR 1983, 2006).

In September 1984, a letter sent from LIRR to the New York City Fire Department, NYSDEC, and the New York State Department of Transportation indicated additional groundwater samples were collected at the site from the same locations where the 1983

groundwater samples were taken, and results indicated hydrocarbon levels were “well below the level that would be of concern” (LIRR 1984).

In 2007, a Site Investigation was performed at the site to confirm the site was not contributing contamination to groundwater (LIRR 2007b). LIRR advanced three groundwater probes at the site, and screened across and below the water table to a depth of 24 feet (see Attachment 4; LIRR 2007d). One groundwater sample was collected at each probe and analyzed for VOCs and SVOCs. Results indicated no exceedances of NYSDEC Class GA Groundwater Standards and it was concluded the site was not a source for groundwater contamination.

9.2.2 **Groundwater Summary**

Historical groundwater sampling conducted at the site indicates limited groundwater impacts, while more recent investigations conducted after source removal (i.e., UST removal and soil excavation) had been implemented determined the site was not a source of groundwater contamination.

9.3 **Surface Water**

Surface Water Investigation

☐ Yes ☒ No

SPDES Permit (Current or Past)

☐ Yes ☒ No

Industrial Wastewater Discharge Permit (Current or Past)

☐ Yes ☒ No

Stormwater Data

☐ Yes ☒ No

Catch Basin Solids Data

☐ Yes ☒ No

Wastewater Data

☐ Yes ☒ No

9.3.1 **Stormwater and Wastewater Systems**

Information regarding on-site stormwater infrastructure and management was not identified in documents available for review. This site is within the Bowery Bay WPCP sewershed. Stormwater and wastewater discharges from the site flow into a combined municipal sewer system. When the combined flows exceed the system’s capacity, untreated CSOs are discharged to Newtown Creek at Outfall BB-013 located at the Pulaski Bridge (NYCDEP 2007).

9.4 Sediment

Creek Sediment Data

☐ Yes ☐ No ☒ Not Applicable

Information regarding sediment investigations was not identified in documents available for review.

9.5 Air

Air Permit

☐ Yes ☒ No

Air Data

☐ Yes ☒ No

Information regarding air investigations was not identified in documents available for review.

10 REMEDIATION HISTORY (INTERIM REMEDIAL MEASURES AND OTHER CLEANUPS)

In August 1995, as part of rehabilitating its maintenance and yard facilities and in compliance with environmental regulations, LIRR identified the need for tank closure and removal procedures at the site that involved excavation, cleaning, removal, demolition, transportation, and disposal of several petroleum USTs, soils, and liquids (STV and EPM 1995). A total of nine USTs were removed, approximately 5 cubic yards of contaminated soil were excavated, and approximately 1,650 gallons of contaminated water were disposed (STV and EPM 1995; NYSDEC 2006). Underground piping was removed and a vacuum truck emptied each tank prior to removal and excavation. Sludge residue from within the tanks was shipped offsite in three 55-gallon drums, and the nine USTs were transported to a scrap metal recycler (STV and EPM 1995). Excavated soils at the site were field screened with the PID and seven post-excavation soil samples were collected and analyzed for VOCs (including BTEX and MTBE) and lead. Endpoint samples indicated levels below NYSDEC contaminated soil policy guidelines as described in Section 9.1.1 of this site summary.

11 BIBLIOGRAPHY/INFORMATION SOURCES

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Sanborn, 1943. *Insurance Maps of the Borough of Queens, City of New York*. Volume 1: Sheet 21. Original 1915, revised 1943.

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Former Gasoline Service Stations. May 1994.

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No. 2. December 1995.

12 ATTACHMENTS

Figures

Figure 1 Site Vicinity Map: LIRR Long Island City Freight Yard (AOC 2)

Tables

Table 1 Potential Areas of Concern and Transport Pathways Assessment

Supplemental Attachments

- Attachment 1 Figure 3 – LIRR LIC Freight Yard AOC 2 Boring Location Plan View (STV and EPM 1994)
- Attachment 2 Figure 10 – LIRR LIC Freight Yard AOC 2 Inferred Extent of Soil Contamination at 10 to 15 feet (STV and EPM 1994)
- Attachment 3 Soil Laboratory Analytical Results from the UST Excavation at LIRR LIC Freight Yard AOC 2
- Attachment 4 Figure 1 – LIRR LIC Freight Yard AOC 2 Site Map (LIRR 2007d)

Table 1
Potential Areas of Concern and Transport Pathways Assessment – LIRR Long Island City Freight Yard (AOC 2)

Potential Areas of Concern	Media Impacted					COPCs														Potential Complete Pathway						
	Surface Soil	Subsurface Soil	Groundwater	Catch Basin Solids	Creek Sediment	TPH			VOCs			SVOCs	PAHs	Phthalates	Phenolics	Metals	PCBs	Herbicides and Pesticides	Dioxins/Furans	Overland Transport	Groundwater	Direct Discharge – Overwater	Direct Discharge – Storm/Wastewater	Discharge to Sewer/CSO	Bank Erosion	Air Releases
						Gasoline-Range	Diesel – Range	Heavier – Range	Petroleum Related (e.g., BTEX)	VOCs	Chlorinated VOCs															
Spills	√	?	?	?	--	√	?	?	?	?	?	?	?	?	?	?	?	?	?	--	?	--	?	?	--	?
Former gas station operations (circa 1936 – 1983)	?	√	√	?	--	√	?	?	√	√	?	√	?	?	?	?	?	?	?	--	?	--	?	?	--	?
USTs	?	?	?	?	--	√	?	?	?	?	?	?	?	?	?	?	?	?	?	--	?	--	?	?	--	?

Notes:

√ – COPCs are/were present in areas of concern having a current or historical pathway that is determined to be complete or potentially complete.

? – There is not enough information to determine if COPC is/was present in area of concern or if pathway is complete.

-- – Current or historical pathway has been investigated and shown to be not present or incomplete.

BTEX – benzene, toluene, ethylbenzene, and xylene

COPC – constituent of potential concern

CSO – combined sewer overflow

PAH – polycyclic aromatic hydrocarbon

PCB – polychlorinated biphenyl

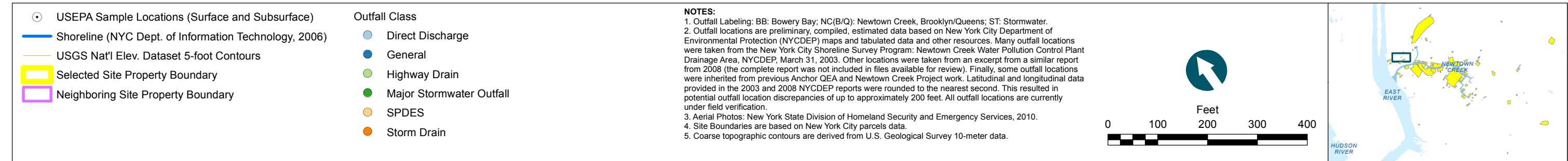
SVOC – semi-volatile organic compound

TPH – total petroleum hydrocarbon

UST – underground storage tank

VOC – volatile organic compound

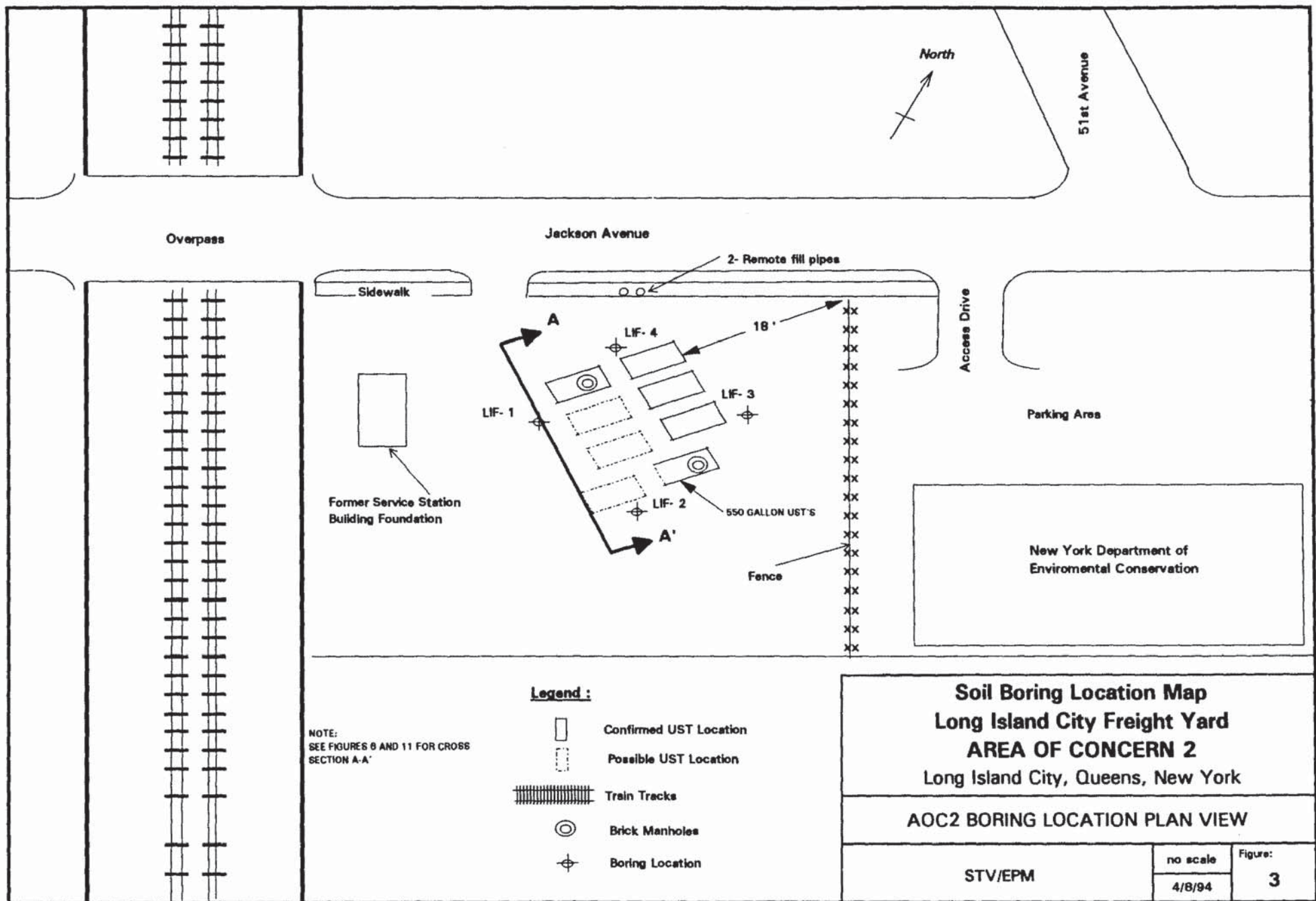
G:\Jobs\110782-01 NewtownCreek\Maps\RI RemedialInvestigation\Historic Data Research\Site Features Mapbook.mxd ckblinger 5/23/2012 5:52:51 PM

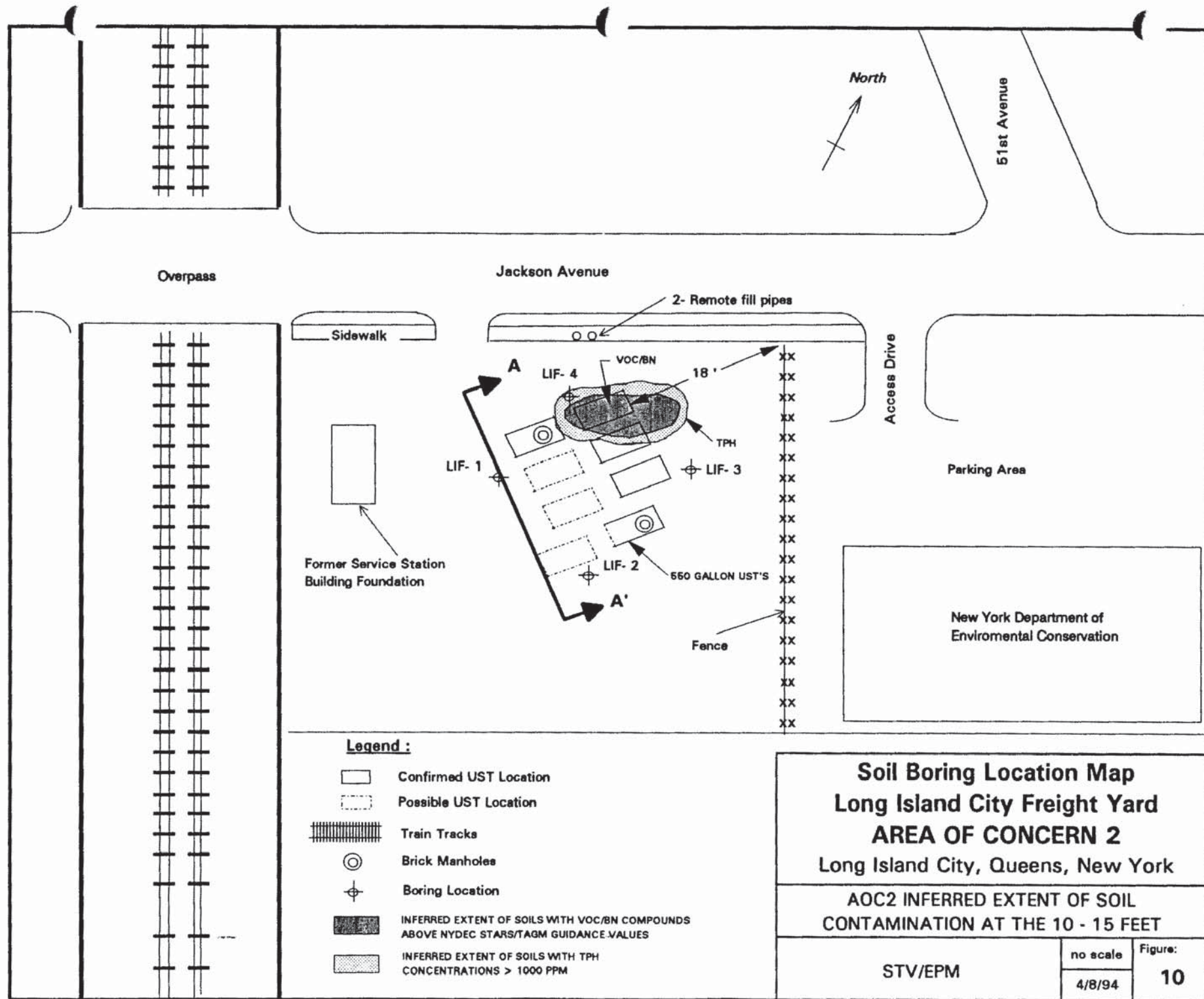


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Figure 1
Site Vicinity Map
Draft Upland Site Summary: LIRR Long Island City Freight Yard (AOC 2)
Newtown Creek RI/FS

SUPPLEMENTAL ATTACHMENTS





Laboratory Analytical Results
Underground Storage Tank Excavation
Long Island Railroad, Long Island City Freight Yard - Area of Concern #2

Parameters	STARS Value*	Sampling Locations						
		Tank 1 Bottom	Tanks 2 & 3 Bottom	Tanks 4 & 5 Bottom	North Sidewall	South Sidewall	East Sidewall	West Sidewall
Benzene	14	<5	<5	<5	<5	<5	<5	<5
Toluene	100	<5	<5	<5	<5	<5	<5	<5
Ethyl Benzene	100	<5	<5	<5	<5	<5	<5	<5
m + p Xylene	100	<10	<10	<10	<10	<10	<10	<10
o Xylene	100	<5	<5	<5	<5	<5	<5	<5
Xylene	100	<15	<15	<15	<15	<15	<15	<15
Isopropylbenzene	100	<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	100	<5	<5	<5	<5	<5	<5	<5
135-Trimethylbenzene	100	<5	<5	<5	<5	<5	<5	<5
124-Trimethylbenzene	100	<5	<5	<5	<5	<5	<5	<5
sec-Butylbenzene	100	<5	<5	<5	<5	<5	<5	<5
p-Isopropyltoluene	100	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	100	<5	<5	<5	<5	<5	<5	<5
Napthalene	100	<5	<5	<5	<5	<5	<5	<5
tert-Butylbenzene	100	<5	<5	<5	<5	<5	<5	<5
Methyl tert Butyl Ether	1,000	<5	<5	<5	<5	<5	<5	<5
Lead (mg/Kg)	(<10-700)**	100	54	17	29	120	130	38

* STARS Guidance Value - TCLP Alternative guidance value for gasoline contaminated soil, NYSDEC STARS Memo #1 (August 1992)

Shaded values exceed STARS Guidance Value

** Eastern United States Background Concentrations

All soil results are in micrograms per kilogram (ug/Kg) except where noted otherwise.



JACKSON AVENUE

SIDEWALK GATE

GP-2
FORMER TANK AREA

GP-1

GP-3

BILLBOARD

12" DROP BELOW GRADE TO RAILROAD TRACKS

RAILROAD TRACKS

PARKING LOT

OVERGROWTH

11TH STREET

COMMERCIAL BUILDING

PARKING LOT

49TH AVENUE

LEGEND

- APPROXIMATE PROPERTY LINE
- SOIL BORING/ SAMPLING LOCATION



MILLER ENVIRONMENTAL GROUP, INC.
1300 Shames Drive, Westbury, New York 11590
Phone: (516) 876-7940 Fax: (516) 876-7946

FIGURE 1: SITE MAP
LIRR: FREIGHT YARD - AOC 2
11-14 JACKSON AVENUE
LONG ISLAND CITY, NEW YORK

DRAWN BY:	NMM
DATE:	3/2/07
SCALE:	1"=30'
CLIENT:	LIRR
SPILL #:	06-50111